THE MMPI-2's RESTRUCTURED CLINICAL DEMORALIZATION SCALE: EXPLORING CORRELATES OF DEMORALIZATION IN A PSYCHIATRIC INPATIENT SAMPLE AND THE IMPLICATIONS FOR AGING

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DEDICATION

For my family, this degree is all of ours;

To my mother Nancy Towne-Latronica for instilling in me the value of an education and for the countless sacrifices she has made for me along the way. The unconditional and unwavering love that you have given me my entire life has helped define who I am as a person and a clinician;

To my husband Jason, thank you for all of the love and encouragement you have given me throughout the years. Your willingness to alter your present in support of our future is something I shall never forget, and your dedication to our family is as always, steadfast;

To my son Xanth, your love has opened my heart even further than I could have ever fathomed. I adore you. Your presence in my life has altered me in such a profound and elegant way;

I have been blessed with an amazing group of friends,
thank you for all of the conversations, laughs,
and shoulders to lean on throughout my life

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ABSTRACT

This study examined selected Restructured Clinical Scales of the MMPI-2 in a sample of 436 adult psychiatric inpatients. The primary focus of the study was to further the understanding of the concept of demoralization which has been alluded to in psychological literature for over 50 years. The first theorist to shed more light on this psychological concept was Jerome Frank. In 1974 Frank wrote a book titled "Persuasion and Healing in Psychotherapy" where he referred to demoralization as an occurrence that happens when someone believes that they consistently have an inability to handle life stressors. Of central interest to the author is the relationship between demoralization and age, and the author is not aware of any research studies examining differences in levels of demoralization with regard to age. Given that demoralization is consequently linked with its sister traits anxiety and depression the study assessed the relationship of all three constructs to age with the central theoretical focus on demoralization. A secondary focus was to examine the relationship of the MMPI-2-RC demoralization scale and its sister scales Low Positive Emotions (RC2), High Negative Affect (RC7), and suicidal ideation (SIS) with age and ancillary demographic variables of gender, marital status, length of hospital stay, education, and discharge diagnosis. This study indicated that the relationship between age and demoralization is largely negative, indicating that younger patients are more likely to endorse symptoms of demoralization. The study findings also indicate that younger patients were more likely to endorse symptoms of depression, anxiety, and suicidal ideation.

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LIST OF ABBREVIATIONS/ NOMENCLATURE

AAS	American Association of Suicidology
CCA	Canonical Correlation Analysis
D	Depression
Hy	Hysteria
MMPI-2	Minnesota Multiphasic Personality Inventory – 2
NA	Negative Activation
Pa	Paranoia
P/U	Pleasantness / Unpleasantness
PA	Positive Activation
Pt	Psychasthenia
Pd	Psychopathic Deviance
RC	Restructured Clinical Scales
RC2	Restructured Clinical Scale 2 (Low Positive Emotions)
RC7	Restructured Clinical Scale 7 (Dysfunctional Negative Emotions)
RCd	Restructured Clinical Scale Demoralization
SIS	Suicidal Ideation Scale

CHAPTER ONE

INTRODUCTION

This project examines the construct of demoralization from a human developmental perspective. The phenomenon of demoralization was first introduced to the clinical literature by Jerome Frank in 1960 and it described an emotional and cognitive condition common to nearly all patients who seek psychological help. It is characterized by a subjective sense of incompetency in dealing with life's problems and an accompanying distress of considerable magnitude. Frank, a clinical psychologist, psychiatrist and author, expanded on demoralization in his writings but conducted no empirical research on the construct. Some years after Frank introduced the concept, a team of empirically oriented community psychologists conducting epidemiological research on human distress (Dohrwend, Shrout, Egri & Mendelsohn, 1980) found that a series of their measures appeared to be assessing what Frank called demoralization. A few decades later, psychologists conducting research on the MMPI-2 isolated a dimension similar to what Frank described and constructed an empirical scale that was capable of measuring it directly in a reliable and valid manner. This scale is now the Demoralization Scale (RCd) of the MMPI-2-RC and of the even newer MMPI-2-RF scale. We now have a psychometrically sound gauge of the construct of demoralization that we can use to investigate its parameters.

The MMPI demoralization scale was developed empirically. However, it is also cleanly nested in Tellegen, Watson, and Clark's circumplex model of the structure of mood. According to Ben-Porath and Tellegen (2008), in terms of factor analytic space, the phenomenon of demoralization lies midway between high negative emotion (anxiety) and low positive emotion

(depression). According to Ben-Porath (personal communication, May 02, 2012) demoralization is neither anxiety nor depression but it is highly related to both.

This study proposes to determine if there is any relationship between demoralization and age. Although it would seem logical to postulate that there may be a link between demoralization and age, there is no empirical literature available at this time on the subject. Given that demoralization is linked with its sister traits anxiety and depression this study will assess the relationship of all three constructs to age with the primary theoretical focus on demoralization and on suicidal ideation.

Brief History of the MMPI-2

The Minnesota Multiphasic Personality Inventory (MMPI) was created by Hathaway and McKinley in 1943 to help determine clinical diagnoses for individuals with mental health disorders. The MMPI is the most widely used instrument to aid in the assessment of clinical diagnosis for outpatient and inpatient mental health institutions (Graham, 2006). After decades of research on the MMPI, flaws within the instrument were revealed. The most pressing reason for revising the instrument was that the norms used on the instrument needed updating due to societal changes. For example, the sample had a restricted range which did not account for differences in Social Economic Status (SES), and the original comparison group consisted of a convenience sample that was not representative of the non-clinical population. When the original MMPI was normed in the 1940's, the average American finished formal schooling by the eighth grade, and by the 1970's the average education level had risen to the completion of high school, and rates of college attendance were rising rapidly (Nichols, 2011). In addition to increasing levels of education there were also other cultural and social factors changing the face

of America. The rise of women in the workforce and the increase in racial diversity amongst the American population contributed to the need for new norms.

The second edition of the instrument (MMPI-2) was created in 1989 by Butcher, Dahlstrom, Graham, Tellegen, and Kaemmer, and focused on updating the changes demographically that took place in the United States over the past 40 years. Butcher and colleagues were aware of other inherent flaws within the instrument, but as changes were being considered for the second edition of the instrument an executive decision was made by the authors to gradually introduce the additional changes (Ben-Porath, 2012). The primary rationale for not overhauling the instrument entirely was based on the likelihood that clinicians would not adapt to the new version of the instrument if too many changes were made at once. The authors purposely chose to be strategic in their changes focusing on revising the norms of the instrument. It is important to emphasize that there were many other changes made to the second edition besides the new demographic norms for the instrument; the second edition also included the introduction of 21 new measures including three additional validity scales, two scales designed to take into account gender roles, as well as a scale to aid in diagnosis of Posttraumatic Stress Disorder (Ben-Porath, 2012). The authors understood that there was still room to improve the instrument, but decided that it was not wise to make too many drastic changes realizing that the large body of research on the MMPI would no longer be relevant to the new edition of the instrument (Graham, 2006). An additional revision would be presented in the form of the Restructured Clinical Scales; these scales are a primary focus of the present study and will be discussed in detail later in this manuscript.

The MMPI-2 is one of the few psychological personality assessment instruments that can be utilized for clinical and non-clinical applications. For the purpose of this study the MMPI-2 was used with a clinical population to assist in the determination of psychiatric clinical disorders.

Validity and Reliability of MMPI-2

The MMPI has had thousands of research studies and published articles examining the validity and reliability of the instrument (Graham, 2006). The MMPI-2 has several reliability and validity scales to aid in the detection of malingering, over and under reporting of symptoms, consistency of responses, and test-taking attitude (Butcher, et al. 1989). The majority of the items on the instrument comprise the Clinical Scales known to the subfield of personality psychology as the "Basic Nine". The term "Basic Nine" reflects the historical roots of the MMPI, originally the instrument had only nine scales. The original clinical scales were derived using criterion-keying and authors developed code types to aid in the interpretation of personality (Ben-Porath, 2012). Criterion keying is an empirical method used to develop the original MMPI scales that involves administering all potential items to different populations ideally to help distinguish different personality patterns and forms of psychopathology (Graham, 2006). Hathaway and McKinley used criterion keying to construct the original scales which at the time this was created were a sound method for the construction of the measure. However, as researchers became more knowledgeable at test design and construction of tests, they became more aware of problems with the use of this type of methodology. Specifically, one of these problems was that criterion keying allowed many items to appear on two or more scales, which had the effect of lowering discriminant validity (Ben-Porath, 2012). These problems with construct validity were not addressed when revisions of the instrument were made in the second edition of the MMPI-2. These issues with construct validity would be addressed with the

creation of the Restructured Scales in 2003 which will be described below (MMPI-2-RC; Ben-Porath, 2012). For a list of the names of each of the original "Basic Nine" scales and what they are believed to measure please see Table 1 in Appendix A.

Restructured Clinical Scales

According to Tellegen, Ben-Porath, McNulty, Aribisi, and Kraemmer (2003) when the MMPI was reconfigured by Butcher and colleagues in 1989 for a second edition there was a renewed interest in the reliability and validity of the instrument. This sparked a host of research studies examining the psychometric properties of the scales, primarily because several of the original items in the first edition were included in the second edition. As more data were collected several validity studies were conducted and it was discovered that there was an inherent problem within the instrument itself. Over the years several researchers found that the "Basic Nine" scales were saturated with a common factor. This factor commonly referred to as the "MMPI-2 first factor" was a byproduct of the way that the original MMPI was created (Graham, 2006). Further, as stated earlier, the instrument norms were developed using a non-representative convenience sample, and in addition to that there was overlap amongst the items which led to high intercorrelations amongst the scales (Graham, 2006). There were several early factor-analytic studies of the scales (Eichman, 1961; Welsh 1956) revealed a common factor was a large contributor to the high intercorrelations. This factor was referred to by several names such as anxiety, general maladjustment, and emotional distress (Graham, 2006).

Hence, 14 years after the appearance of the MMPI-2 the decision was made to restructure the MMPI to address several of its nagging psychometric deficiencies. Tellegen and Ben-Porath (Tellegen, A., Ben-Porath, McNulty, Arbisi, Graham, & Kaemmer, 2003) led this effort which resulted in a major upgrade and revision of the MMPI-2 which was given the MMPI-2-RC

(Restructured Clinical Scale). In developing this new instrument the authors had two major technical goals. The first was to extract the common factor from the Basic Nine scales and to construct a new scale that would assess that factor separately from the original scales. The second goal was to reconstruct the Basic Nine in such a way that there was no item overlap among them so that they would be more capable of measuring exclusively the dimension they were intended to measure.

In creating the RC scales Tellegen and colleagues completed this undertaking in four steps:

1) Defining and capturing the common factor via several exploratory analyses,

2) Identifying the core components of the clinical scales,

3) Deriving seed scales, and

4) Developing the final restructured clinical scales in which authors ensured that none of the items overlap with each other (Ben-Porath, 2012).

These steps resulted in a new MMPI-2 scale now named Demoralization (RCd, which is the same as the first or psychiatric factor) and eight of the Basic Nine scales now cleaned of demoralization and more capable of measuring the constructs they were intended with less error. It is important to note that there is no item overlap on the RC Scales. The new Demoralization scale comprised of items from each of the original scales and is the only RC scale that draws items from all of the original scales. The majority of the 23 items that now make up the RCd were taken from Scales 2 (Depression) and 7 (Psychasthenia). The authors of the RCd assumingly drew from Jerome Frank's work (1961, 1974) when naming the scale Demoralization. The RC scales were influenced by past research Tellegen had conducted on the ways in which mood, personality and psychopathology are related (Ben-Porath, 2012). They

purposefully modeled this new scale from Watson and Tellegen's model of mood, utilizing the Mood Circumplex as a theoretical model for describing the characteristics of demoralization.

> We clarified the demoralization concept within the framework of Watson and Tellegen's (1985) model of Positive Affect (PA) and Negative Affect (NA). We had specifically hypothesized (Tellegen, 1985) that Demoralization is the MMPI-2 equivalent of the Pleasantness-versus-Unhappiness (PU) axis in Watson and Tellegen's model. (Tellegen et al., 2003, pp.12-13).

Now, the author will provide a more detailed explanation of Watson and Tellegen's model of the structure of mood.

Model of Mood

Watson and Tellegen (1985) created a model of mood with a two-factor structure design of affect. This model has been revisited and enhanced over the years to aid in understanding how features of mood, personality and psychopathology interact (Ben-Porath, 2012). The circumplex model of mood is named after the visual imagery that encapsulates the way in which descriptors interact. The model is two-dimensional with regard to affect which is depicted by a bidirectional dimension focused on High Positive Affect (PA) and High Negative Affect (NA). The third dimension is found halfway between the low PA (depression) and high NA (anxiety) dimension which is defined by its two poles Unpleasantness versus Pleasantness (PU) (Watson & Tellegen, 1985). Adjective descriptors are listed next to each part to help the reader understand the differences within each area of the model. There are four basic principles to this model. First, the model proposes that the Unpleasantness section of the PU dimension captures the psychological construct Demoralization. The descriptors listed in the Unpleasantness section are: blue, grouchy, lonely, sad, sorry, and unhappy. To further illustrate a figure has been placed below; the red-highlighted area demonstrates where demoralization is depicted in the model. The second principle of this model is that a high level of the PA dimension reflects anxiety traits.

The third principle is low levels of the PA dimension reflect depression traits. Finally, this model of mood proposes that demoralization resides within the region between high NA and low PA (reflected in the right lower quadrant of the circumplex). Please see Figure 1 below for more details (Watson & Tellegen, 1985; Tellegen, Watson & Clark, 1999a; Tellegen, Watson & Clark, 1999b).

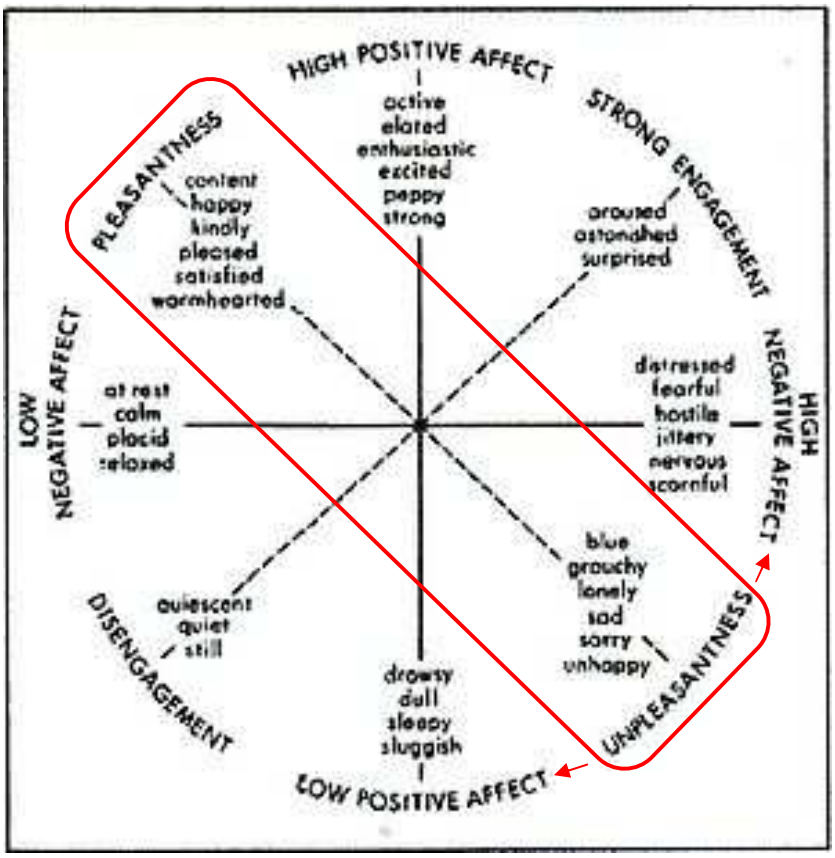

Figure 1. Watson and Tellegen's Two-Dimensional Model of Mood (1985).

Empirical Research on RCd Scale

The RCd scale has been used to demonstrate symptoms associated with demoralization such as hopelessness, inability to cope, depressed mood, depressed affect, and general distress have been found in a variety of populations such as psychiatric inpatients (Arbisi, Sellbom, &

Ben-Porath, 2008; Handel & Archer , 2008); outpatient mental health consumers (Binford & Liljequist, 2008), college university students (Sellbom, Ben-Porath, & Graham, 2006), addiction treatment patients (Forbey & Ben-Porath, 2007), and veteran populations (Simms et al., 2005; Wolf, et al., 2008).

Binford and Liljequist (2008) conducted a study with clients in an outpatient counseling setting finding that the RC scales, specifically RCd (demoralization) and RC2 (low positive emotions/depression) had large correlations between those scales and relevant behaviors. The authors defined relevant behaviors from a large number of behavior ratings, clinical interview, and discharge diagnosis. One of the main findings from the study is that RCd was more significantly correlated with suicidal ideation and depression as the presenting problem than RC2. The study also found that the diagnosis of Depression was more strongly correlated with RC2 than RCd. These findings provide support that RCd is able to detect suicidal and depressed thinking styles separate from the construct of demoralization. The authors also point out that the RCd scale performed "…as intended by its developers to be a more general form of maladjustment…" These findings further support the argument that demoralization is closely related to depression, but is not a measure of depression (Binford & Liljequist, 2008 p. 612).

A study by Sellbom, Ben-Porath, and Graham (2006) examined the empirical correlates of the RC scales in a college counseling setting and found that RCd had the strongest correlations with anxiety, depression, and insecurity. The authors also discovered in this study that the RCd did not correlate with non-relevant behaviors and did correlate with relevant behaviors reflecting good discriminant validity on the part of the RCd scale. Some examples of relevant behaviors measured in this study that correlated with RCd scores were how depressed the client presented during the interview, interpersonal sensitivity, anxiety, depression, and Axis V Global Adaptive

Functioning (GAF) scores. All of the above measured behaviors had a positive correlation with RCd except the GAF scores which were negatively correlated with RCd (i.e., people with higher levels of demoralization had lower functioning). The general finding from the study was that the RCd scale could moderately predict the patients' level of depression and general functioning.

In a study of over 500 adult psychiatric inpatients authors Handel and Archer (2008) found results similar to those found in previously mentioned studies with their sample showing that RCd demonstrated good discriminant and convergent validity. In this study the psychiatric inpatients that scored high on demoralization also had higher levels of suicidal ideation, and higher levels of "non-descriptive" stress endorsing items reflecting feelings of excessive guilt, hopelessness, and a decrease in appetite, energy, and sleep. The study also found that the suicidal ideation levels were elevated for those with higher demoralization than depression levels.

Arbisi, Sellbom, and Ben-Porath (2008) examined a large group of psychiatric inpatients (over 1,000 participants) and found that again the RCd measure performed as expected with individuals who scored higher on RCd endorsing and presenting relevant behaviors of demoralization. Furthermore, the RCd scale did not show a positive relationship between behavioral descriptions reflecting depressive symptomatology, these behaviors correlated as anticipated with the RC2 scale instead. The empirical findings from the above mentioned studies are consistently meeting expectations that the RCd scale is able to detect demoralization picking up on symptoms of hopelessness, suicidal ideation, interpersonal sensitivity, and an overall general decrease in functioning. The research literature that currently exists on RCd indicates that the scale demonstrates strong convergent validity, yet also each study found the RCd was not picking up items that were not reflective of demoralization demonstrating accurate discriminant validity as well.

As mentioned previously the RCd scale has been examined in a few studies with a few populations. However, there are no research studies examining differences in levels of demoralization with regard to age. The author will now describe the relevance of examining how demoralization may impact an aging population and the pressing need within the field of psychology to conduct research on demoralization rates within this population.

Aging in America

Over the last one hundred years the life expectancy for Americans has increased from 46 to 74 years for males and from 49 to 80 years for females (U.S. Census Bureau, 2010). These dramatic changes in life expectancy are shifting the demographics of America; at the beginning of the 20th century older adults (as defined as 65 years or older) comprised 4% of the total population. Fast forward to the beginning of the 21st century and older adults now comprise 12% of the total population. Furthermore, it is expected that these numbers will rise in the next 20 years so that older adults will comprise 20% of the American population (U.S. Department of Health and Human Services, 2011). To put this into perspective there will be more people over the age of 65 living in the United States than there are people living in Canada (Hannah, Domino, Figueiredo, & Hendrickson, 1996). Increases in medical technology are allowing millions of older adults to live longer. While there is more attention being put upon healthy aging it focuses more on physiological wellbeing; this often does not include enough emphasis on psychological wellbeing (Moyle et al., 2010). With such a large number of people entering into this developmental stage of life more needs to be learned regarding psychological aging. Unfortunately, the amount of research being conducted and literature being produced is not keeping pace with the challenges that our society faces. While progress is slow, this area of research is gaining momentum and psychologists are learning more about the complexities of

aging. The overall purpose of this study is to deepen our understanding of the relationship of age to demoralization.

Demoralization

The concept of demoralization has been discussed throughout psychological literature for several decades. At first this concept was not referred to as demoralization, but the symptoms of demoralization were described by several theorists before the term demoralization was coined. The research on this concept was discussed in three separate fields of helping professions prior to clarification of the construct. Several different researchers were writing about these characteristics. In the field of psychiatry observations were made by Frank (1960, 1974) who worked with psychiatric patients, Engel (1968) who conducted research with patients diagnosed with somatic disease, and Dohrenwend Shrout, Egri, and Mendelsohn (1980) who conducted epidemiological work in the community. All of these researchers and theorists noticed similar symptoms of hopelessness, despair, and distress within their respective samples, but used different terms to describe their findings.

Demoralization is a term that was first proposed over fifty years ago by psychiatrist Jerome Frank (1960). He originally spoke of demoralization as a descriptor of the general mental state of those seeking psychotherapy; he wrote that they were disheartened, lacked courage and were deprived of spirit (de Figueiredo, 2007). In Frank's pivotal book "*Persuasion and Healing in Psychotherapy*" (1960) he described this psychological construct as:

> A state of mind…resulting from persistent failure to cope with the internally or externally induced stresses…its characteristic features, not all of which need to be present in any one person, are feelings of impotence, isolation, and despair…patients seldom present themselves to therapists with the complaint that they are being demoralized; rather they seek relief for an enormous variety of symptoms and behavior disorders. (p. 172)

As work continued over the years on capturing the essence of what demoralization is, the definition of demoralization was refined by both Frank and de Figueiredo as a combination of perceived ineffectiveness and an inability to cope (Marchesi & Maggini, 2007). Although there has been some debate among other theorists that Frank's original definition was too over encompassing, the newer reconceptualization of demoralization is the most widely accepted definition of demoralization (Clarke & Kissane, 2002). Many of the most common features of demoralization include the following psychological symptoms: anxiety, sadness, subjective incompetence, discouragement, low self-efficacy, hopelessness-helplessness, inability to cope, and resentment (Marchesi & Maggini, 2007). It is important to note that not all of these symptoms have to be occurring for demoralization to be present. The three most prominent features of demoralization are the following: hopelessness, inability to cope, and subjective incompetence, a brief description of each will follow.

Hopelessness

The concept of hopelessness has been written about by several theorists (Dohrenwend, Shorout, Ergi, & Mendelsohn, 1980; Dohrenwend & Dohrenwend, 1974; Cassell, 1982, 1999; Engel, 1968. In the demoralization literature hopelessness is generally defined as a loss of meaning in one's life and that often negative distortions of reality are present (Clark & Kissane, 2002). Dohrenwend and colleagues (1980) observed these types of characteristics in when conducting research on nonspecific psychological distress with psychiatric patients Dohrenwend was influenced by Frank's research with demoralization, noting the similarities between their works. Dohrenwend created short questionnaires designed to capture non-specific psychological distress. He conducted community epidemiological studies with psychiatric patients and observed symptoms of helplessness-hopelessness, poor self-esteem, sadness, and perceived

health quality. Dohrenwend created a measure called the Psychiatric Epidemiological Research Interview (PERI) which has 17 symptom scales, 4 of which were created based on his descriptions and observations of these characteristics in psychiatric consumers in the community.

Inability to Cope

Another important component of demoralization is the inability to cope. Lazarus and Folkman (1984) developed a model for coping and stress that is comprised of two key parts, coping and appraisal. The authors argue that appraisal involves self-efficacy and an overall sense of optimism or pessimism about life. Coping is the other key component of the model and is defined as the ability to regulate stress and by being either problem-focused (taking direct action) or emotionally-focused (seeking social support). Lack of coping is one of the most central components to demoralization (Clarke & Kissane, 2002).

Engel (1968) was a psychiatrist and researcher who described six common factors he observed in his patients when researching somatic complaints with psychiatric patients. The common factors he observed were helplessness/hopelessness, incompetency, inability to enjoy relationships, lack of mastery of past skills (self-efficacy), loss of continuity, and rumination of past experiences. He described these characteristics as the "giving up – given up" complex (Engel, 1968). Engel also argued that it is not necessary to have all of these symptoms present. Engel who primarily studied individuals with somatic complaints proposed that somatic complaints were highly prevalent with the "giving up – given up" complex, but not required. Just as Engel found these symptoms with patients, physician Eric Cassell (1982) noticed similar characteristics with his patients as well.

Eric Cassell, a physician specializing in internal medicine also alluded to the concept of demoralization in his work with moral issues in physical health. Cassell (1982) discussed the

concept of demoralization (although he did not refer to it by this name) based on clinical observations of his patients with chronic or recurring medical conditions. Cassell questioned the nature of suffering and the relationship between suffering and physical illness. He viewed these concepts as a "distinctly different phenomena" although he believed that individuals in pain were less likely to report suffering if they felt a sense of control. Cassell postulated that unrelieved suffering influences an individual's perception of reality, particularly their perception of future events. Cassell (1999) argued that suffering cannot be treated without diagnosis of symptoms which is often subjective to the experience of the patient, and that until the distress is relieved the suffering will remain. The observations Cassell (1982, 1999) wrote about allude to one of the defining characteristics of demoralization, inability to cope. The lack of control and perception that life is not going to change anytime soon reflect stressors that often present themselves in a demoralized individual. If persons are unable to regulate their level of distress and feel they cannot cope with the problem whether physical or mental, they will start to feel more helpless and may lose their self-efficacy.

Several theorists have discussed characteristics of what today is commonly referred to as demoralization. So far, review of several descriptors of demoralization have been mentioned, but there is one more that needs to be discussed to fully grasp what demoralization is comprised of and that construct is subjective incompetence.

Subjective Incompetence

Subjective incompetence encompasses both a physical and a mental aspect. An inability to feel competent in ones capabilities is a hallmark symptom of demoralization (Cockram, Doros, & de Figueiredo, 2009). Subjective incompetence occurs when persons perceive their ability to perform physical tasks as inadequate and also have difficulty properly expressing

themselves emotionally in a stressful situation (de Figueiredo & Frank, 1982). In 2009 de Figueiredo created a scale to measure subjective incompetence. However, given the recent creation of the measure normative sampling has not been established, but is in the process at the time of this study.

Definitions of the primary characteristics of demoralization have been given: discussion about the intertwining and differences between demoralization and depression can now occur. Depression is an important topic to include in this discussion since there are several new studies showing evidence that demoralization can lead to depression (Rickelman, 2002; Strada, 2009).

Empirical Differences in Demoralization and Depression

Demoralization is different from depression, but often presents with several of the same features. It may be helpful if the differences between the two constructs are described. Understanding these differences will help to ensure psychologists are able to accurately measure and distinguish between demoralization and depression. This is important for individuals to receive adequate treatment and to incorporate proper prevention measures.

According to de Figueiredo (1993), the primary way that demoralization differs from depression is whether or not anticipatory and consummatory pleasures are affected in the individual. Klein et al. (1980) define anticipatory pleasure as the ability to engage in a deliberate action and that this requires a positive sense of self. Klein and associates define consummatory pleasure as ability to enjoy the interactions that are made available in someone's daily routine. de Figueiredo (1983) argues that this is a key difference between demoralization and depression. A depressed individual will be unable to take any pleasure from experiences, but a demoralized individual will not be able to anticipate pleasure, however will be able to delight in consummatory pleasure (de Figueiredo, 1993). Jerome Frank's (1985) classic example

illustrating the differences in these two psychological constructs is that of a woman whose husband fails to come home from work; she would be depressed if her husband was killed in an auto accident, but would be demoralized if he did not come home because he had decided to leave her for another woman.

Demoralization and Older Adults

We will now turn to the question of the possible relationship between demoralization and age. One of the goals of this study is to examine the covariates of demoralization. One of the covariates of particular interest to the author is age. While this is not a longitudinal study and causal results cannot be inferred, the author knows of no study exploratory or otherwise that has examined age as a factor in demoralization. In an attempt to confirm the lack of research examining age and demoralization beyond a formal literature search and review the author contacted two major theorists of demoralization. The author first contacted Julia Frank, daughter and co-author with Jerome Frank, to see if she was aware of any research examining demoralization and age. She stated, "I regret to say that I don't, though it is a question worth asking" (J. Frank, personal communication, February 21, 2012). To further ensure that literature on the topic of demoralization and age was nonexistent Yossef Ben-Porath, one of the creators of the Restructured Clinical Scales, was contacted. He also confirmed that he does not believe there is any literature surrounding this area stating "I'm not aware of any studies that have looked at this directly" (Y. Ben-Porath personal communication, May 02, 2012).

There are several risk factors for individuals as they age; many of these factors reflect characteristics that are more prominent with older adults. For example, subjective incompetence is a key characteristic in demoralization and has been found to be more prevalent in individuals with physical illness (Marchesi & Maggini, 2007). Although subjective incompetence is one

piece of the demoralization puzzle this symptom is the one that may affect older adults the most. Subjective incompetence includes a physical aspect and the majority of people show a decline in physical health as they age. A study by Ferrari and colleagues (2008) discovered that those diagnosed with demoralization overly utilize primary care services. These finding brings to light yet another reason why we need to be able to better understand and treat demoralization.

Difficulties in Assessing Accurate Rates of Demoralization with Older Adults

The prevalence of demoralization in an elderly population is difficult to assess. One of the reasons that it is hard to obtain an accurate calculation of demoralization with older adults is that people may normalize feelings of subjective incompetence, hopelessness, and lack of coping skills as being a part of the aging process. Furthermore, often times loved ones do not see the warning signs of psychological pain because they also assume that it is a normal part of aging. Since there are numerous life changes during this period of development people may expect that older individuals will not be able to cope well. Another plausible reason as to why establishing how many older people are affected by demoralization is that for many there is a strong stigma placed on admitting that you are having problems coping or are wrestling with psychological pain. Many older adults still view the thought of seeking psychological services as some sort of admittance to being "crazy" or incompetent or view emotions as being a private matter.

Another possible reason that demoralization is difficult to assess in older adults is the concept of "Socioemotional Selectivity Theory". Social psychologist Laura Carstensen has dedicated most of her career to studying emotion regulation and developed a life-span theory of emotion called Socioemotional Selectivity theory. This theory postulates that as an individual perceives the amount of time they have left in their life as limited this has an influence on their social goals as well as their reasons for interacting with others (Carstensen, 1993). Carstensen's

theory also proposes that this perception that their life is limited which has an influence on motivation also influences cognitive processing. One aspect of Socioemotional Selectivity theory is "emotional motives" which posits that as people age they tend to steer clear of negative states of emotion and focus on positive ones (Carstensen, 1999). It should be clarified that it is not that older adults do not experience negative states of emotion, but rather that they actively seek out positive states and in turn pay less attention to negative states. Carstensen believes that as a person ages they begin to view their future as shortened and develop a "positivity bias" and begin regulating their emotions by choosing to interact with others whose company they like and can predict the types of interactions they will have.

Socioemotional Selectivity theory accounts for many of the more positive aspects of aging, but not all older adults are able to regulate their emotions with ease and may be more susceptible to experiencing demoralization or depression symptoms. Gaining a better understanding of what allows some older adults to regulate their emotions and reconcile their past experiences better than others may be helpful for researchers to be able to provide better care to those who are suffering from demoralization.

A final reason for difficulty in establishing accurate rates of demoralization is that although demoralization has been discussed as a psychological concept for approximately 50 years researchers are only recently paying attention to how this psychological problem is affecting older adults in their day-to-day functioning. The range of strategies for reaching seniors and making them aware of the warning signs of demoralization is limited.

Research has shown that demoralization can often lead to depression (Rickelman, 2002). Understanding how to treat and assess demoralization in older adults it may allow mental health professionals to decrease the rates of depression as well. There is a vast amount of literature on

the symptomatology of depression, but literature focused on demoralization is lacking. Demoralization is said to have components of both. It seems fair to postulate that levels of demoralization within this population and the general population are indeed high and of importance to study. Given the intertwining of demoralization, depression, and anxiety, all three of these psychological constructs will be examined in tandem in this study. Now that the construct of demoralization has been addressed, the author would like to turn the reader's attention towards the topic of depression.

Depression in the United States

According to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision* (DSM-IVTR, 2000), Depression is a type of Mood Disorder categorized by impairment in mood along with a minimum of four additional symptoms for a period of at least two weeks. Within the DSM-IVTR, there are 14 different diagnoses that fall within four diagnostic categories of Mood Disorders; those four categories are: Depressive Disorders, Mood Disorders, Bipolar Disorders, and Other Mood Disorders. For the purposes of this study when discussing individuals with "Depression" it is important to note that this will refer to people who meet criteria for any of the four diagnostic categories of Mood Disorders. The Depressive Disorder diagnostic category includes the following diagnoses: Major Depressive Disorder, Dysthymic Disorder, and Depressive Disorder Not Otherwise Specified.

Kessler and colleagues completed a national comorbidity replication study surveying over 9,000 individuals aimed at figuring out what types of psychological disorders are prevalent within the United States and whether those individuals are seeking treatment. The researchers discovered that with regard to Mood Disorders the 12-month prevalence rate was 9.5% (Kessler, Chiu, Demler & Walters, 2005). The average American has a 20% chance of experiencing a

Major Depressive Disorder (Simon, et al., 1995). The average age of onset is 32 years of age, and 7% of the general population roughly 15 million people are currently experiencing a Major Depressive Disorder (Kessler, Berglund, Demler, Jin, Merikangas & Walters, 2005). Further complicating the discussion of Depression and the rates of prevalence within the population is the fact that depressive symptoms have a wide range of severity and duration which results in some people experiencing these symptoms who do not qualify for a diagnosis of a Depressive Disorder (Zairt & Zarit, 2011). Given the nature of this study's sample it is important to explain the possible differences in the presentation of depressive symptoms.

Depression and Psychiatric Inpatients

According to the U.S. Department of Health Services (2011), an agency charged with tracking vital statistics for mental health, the most common diagnosis of an individual entering into an inpatient psychiatric hospital is a Mood Disorder. Furthermore, 49% of all the individuals hospitalized for a psychiatric illness had a Mood Disorder as their primary diagnosis upon discharge. Twenty-nine percent of older adults had a Mood Disorder diagnosis as their primary diagnosis upon discharge. Individuals hospitalized are more likely to be experiencing a more severe and persistent form of Depression and more often experience psychotic symptoms due to the severity of the illness. Depression when severe can present with psychotic features which are classified as a loss of reality usually in the form of delusions and/or hallucinations (Fava & Cassano, 2008). Unfortunately, once individuals have been hospitalized for a mental illness they are likely to have another hospitalization. Approximately 40 to 50% of all individuals admitted to a psychiatric hospital will be readmitted within one year of discharge, and this readmission rate has remained constant for over 20 years (Bridge & Barb, 2004; Klinkenberg & Calsyn, 1996).

Depression and Older Adults

According to the National Alliance for the Mental Illness (NAMI) 18% of adults over the age of 65 are affected by depression (Duckworth, 2009). However, it is important to explain that being affected by depression is different than having a Major Depressive Disorder. Within the general U.S. population studies estimate that between 1 and 3 percent of older adults (roughly 400,000 to 1.2 million) are diagnosed with a Major Depressive Disorder and that 8 to 16 % of those older adults (32,000 to 196,000) have clinically significant symptoms (Cole & Dendukuri, 2003; Duckworth, 2009). These numbers may be underinflated due to research that suggests that fewer than 20% of cases are detected or treated (Cole & Dendukuri, 2003). Depression is associated with higher rates of use of the health care system, and this can result in increased use of medications, visits to the emergency room visits, and outpatient visit charges (Callahan, Hui, Nienaber, Musick & Tierney, 1994). One of the reasons many cases of depression go untreated is due to a common stereotype in American society that it is "normal" for older adults to become depressed (Devi, Neenu, Rosemary, Anju, & Dalphina, 2007). Older Adults are often depicted in the media as being isolated and unhappy (Zarit & Zarit, 2011). This contributes to the societal myth that the natural aging process includes persistent feelings of sadness. Although this myth is perpetuated in a variety of formats and older adults are more at risk for depression research has consistently shown that this widely held belief is in fact false (Zarit & Zarit, 2011).

Risk Factors for Depression in Older Adults. There are several risk factors for depression as one grows older. Cole and Dendukuri (2003) completed a meta-analytic review of depression and older adults searching for potential risk factors within this specific population. They reviewed 145 studies over the last 35 years, utilizing 20 studies for their analysis. The authors found that health status, bereavement, prior depression, and gender to be high risk factors

for depression (Cole & Dendukuri). Health status appears to play a large role in depression; health status includes perceived health, poor health status (chronic diseases), and recent diagnosis of a medical illness. As one grows older the likelihood that a person will have a serious medical ailment increases. While older adults are not considered a high risk category for depression; older adults who do become depressed are more likely to have severe symptomology as classified by the DSMIV-TR (e.g., Dysthymic Disorder versus Major Depressive Disorder with Psychotic Features) (Vink, Aartsen & Schoevers, 2008).

There are a few possible reasons why bereavement is a risk factor for depression, specifically, the loss of social support that the loved one provided and the variety of changes that arise from that loss. While these losses cannot be prevented, knowing that this is a risk factor would allow individuals going through these changes to be identified easily for social support.

A prior history of depression puts an individual at a higher risk which has several implications for older adults. Individuals with a past history of a major depressive disorder have a 50% chance of experiencing an additional episode sometime in the future (Solomon et al., 2000). Furthermore, individuals with a history of major depression over the age of 55 are four times more likely to commit suicide than persons under the age of 55 with the same diagnosis.

Finally, change is a risk factor for depression, and as one ages there can be a variety of changes many of which are sudden and significantly impact an individual's daily routine (Cole & Denkuri, 2003). Several studies have shown that older adult females are at a much higher risk for depression then males (Blazer, 2002; Cole & Dendukuri, 2003; Vink, Aartsen, & Schoevers, 2008). This finding is not unique to older adults; females in general are at a higher risk for depression throughout the lifespan (Vink, Aartsen, & Schoevers).

Does Depression Present Itself Differently in Older Adults? Research focused on depressive symptoms in older adults reveals that the presentation of these symptoms often has a large somatic component (Zarit & Zarit, 2011). It is important to note that older adults do show the more "traditional" symptoms of depression, such as lack of interest in activities, inability to perceive any future happiness, and uncontrollable bouts of sadness (Rylands & Rickwood, 2001). The somatic complaints are often difficult to distinguish from medical conditions; thus, treatment of depressive symptoms might be delayed. Rates of depression with individuals with a severe medical condition are difficult to determine due to similar symptoms presented with many medical conditions and depression (Zarit & Zarit, 2007). What complicates this issue further is the research finding that outpatient individuals with serious medical illnesses which impact their overall physical functioning have much higher rates of depression; these rates are estimated to be between 12 and 20% (Koenig & Blazer, 2002). Furthermore, individuals hospitalized for physical illnesses who also have a Major Depressive Disorder are estimated between 6-44%. These rates vary widely depending on the type of physical illness, with the average being around 12% of older adults (Koenig & Blazer, 2002). More specifically, Dementia, Parkinson's disease, and a variety of neurological disorders have the highest comorbidity with depression amongst the older adult population (Zarit & Zarit, 2011).

Anxiety Rates in the United States

Anxiety disorders are amongst the most prevalent and intrusive of disorders; they affect approximately 30 million Americans, and females are twice as likely to be diagnosed with an anxiety disorder than males (Sadock & Sadock, 2007). A study by Kessler and colleagues (2005) examined rates of lifetime prevalence for mental health disorders in the United States and found that Anxiety Disorders were the most widespread class of disorders; it is estimated that 28.8% of Americans who struggle with a mental health disorder during their lifetime will meet criteria for an Anxiety Disorder. Anxiety disorders generally have four characteristics that encapsulate the condition: excessive fears (real or imagined), intrusive thoughts, physical symptoms, and an increase in overall psychological tension (Healy, 2009). According to the DSM-IVTR, (2000) there are currently 13 different types of anxiety disorders. The most prevalent types of anxiety disorders are: Generalized Anxiety Disorder, Social Phobias, specific phobias, and Post-Traumatic Stress Disorder (Sadock & Sadock, 2007). Kessler et al. (2005) reviewed rates of disorders amongst adults in the United States and 12 month follow-up found that approximately 18.1% of the population has an anxiety disorder and only 22.8% indicated that they are or were seeking treatment for their symptoms. Age of onset is surprisingly early for individuals with anxiety disorders; the average age is 11 years old (Kessler, 2005). Due to the fact that the participants in this study were in a psychiatric hospital setting, as were the participants in the current study, it is relevant to briefly discuss anxiety characteristics within this population.

Anxiety Disorders in Psychiatric Inpatients

Individuals with a primary diagnosis of an Anxiety Disorder who enter into a psychiatric hospital are more likely to present with more severe symptoms. Although Anxiety Disorders are

the most prevalent type of disorder in the general population, they only comprise 2% of primary diagnoses at time of discharge from an inpatient hospital setting (U.S. Department of Health and Human Services, 2011). It is important to note that although 2% does not seem to reflect a large need within this specific population, individuals with an Anxiety Disorder are much more likely to have an additional psychiatric diagnosis listed as the primary diagnosis at discharge.

Anxiety Disorders and Older Adults

A significant factor that impacts the likelihood of being diagnosed with a specific Anxiety Disorder appears to be whether or not the older adult had struggled with anxiety earlier in life (Zarit & Zarit, 2011). If an older adult is experiencing anxiety symptoms for the first time later in life then they are more likely to present with symptoms that would warrant a diagnosis of Phobias or Generalized Anxiety Disorder (Lenze et al., 2005; Stanley & Beck, 2000). Individuals who report previously having difficulty with symptoms of anxiety, but no diagnostic history have shown no link to a specific type of Anxiety Disorder (Lenze, et al., 2005). They are also much more likely to struggle with anxiety symptoms after entering older adulthood. Older adults are less likely to have an anxiety disorder compared to adults under 65 years old, and are also less likely to seek services from a mental health provider (Olafsdottir, Marcusson & Skoog, 2001). Although there are several plausible reasons as to why this could be occurring the most prominent theory is that older adults are less likely to identify with or seek services for anxiety disorders due to a tendency to somaticize their anxiety symptoms, and a lack of recognition by general practitioners that these somatic complaints are anxiety symptoms (Vink, Aartsen & Schoevers, 2008).

Suicide in the United States

According to the American Association of Suicidology (AAS, 2010) there are approximately 32,000 individuals in America who successfully end their lives each year. Furthermore, for every one of those suicides there are at least six more individuals who attempted this and survived. Individuals with a mental health diagnosis have been linked with higher suicide rates. Based on psychological autopsies it is estimated that 80-90% of individuals who have completed suicide met criteria for at least one mental health disorder (AAS, 2011; Overholser, Braden & Dieter, 2012). The most common characteristic for admission into a psychiatric facility is an individual's inability to keep safe from harming themselves or others.

Suicide and Older Adults

While the majority of older adults live healthy, productive, active lives those who suffer from psychological pain are at a much higher risk for attempts to self-harm than any other segment of the population. A study conducted by the Centers for Disease Control (CDC, 2005) found that while older adults only comprise 12% of the population in the United States they comprise 16% of all suicides. In fact, rates of suicide amongst older adults are nearly 50% higher than any other age group. The highest risk group for suicide is Caucasian males 85 years of age or older; rates of suicide are 36% higher in males over the age of 85 then older adults under 85 years of age (AAS. 2011). Risk factors that have shown a relationship between attempts/completions of self-harm and older adults are the following: loss of a loved one, social isolation, being male, life-role change, and depression (CDC, 2005). Having a better understanding of how demoralization occurs may help prevent it from manifesting itself into a more severe psychological issue like depression or suicide.

Suicide and Demoralization

The relationship between demoralization and suicide has been studied by a few researchers for many years. Frank and Frank (1991) linked demoralization to suicide. They cite the role of extreme hopelessness that characterizes demoralization that may lead to suicide. Graham (2006) writes that persons scoring high on the MMPI-2-RC demoralization scale (RCd) should be evaluated for suicide risk. Depression and hopelessness have been shown to be distinct factors contributing to the desire for someone to take their own life (Clarke & Kissane, 2002). The relationship between a large amount of hopelessness and suicidal ideation has also been shown in terminally ill patients and psychiatric inpatients (Dori & Overholser, 1999; Owen, Tennant, Levi & Jones, 1994). In a study of psychiatric inpatients the authors discovered that suicidal ideation had a more significant relationship with hopelessness than depression (Wetzel, Margulies, Davis, & Karam, 1980). These findings all strengthen the argument that demoralization is a strong risk factor that needs closer examination.

Purpose of the Study

The construct of demoralization has been recognized for many decades and is of considerable interest clinically and theoretically. However, we have not had a sound psychometric tool available to measure it accurately. With the publication of the MMPI-2-RC demoralization (RCd) scale in 2003 we now have such a research tool. The overarching purpose of this study was to deepen our understanding of demoralization and the scale designed to measure it, the RCd scale. Of central interest to this study was the possible relationship of demoralization to age.

A more broader goal was to examine the relationship of the MMPI-2-RC demoralization scale and its sister scales Low Positive Emotions (RC2), High Negative Affect (RC7), and

suicidal ideation (SIS) with age and ancillary demographic variables of gender, marital status, length of hospital stay, education, and discharge diagnosis.

CHAPTER TWO

METHOD

Participants

There were a total of 436 participants in this study who completed the MMPI-2 assessment measure with profiles that were deemed valid and reliable. Participants ranged in age from 18 to 90. The average age was 34 years old. The sample was split almost evenly by gender with females comprising slightly more of the sample (n=229, 52.5%) than males (n=207, 47.5%).

Participants self-identified their ethnicity as the following: Caucasian 88.3%, African-American 6.1%, Hispanic/Latino 1.6%, Native-American 3%, Asian-American 0.5%, and "Other" 0.5%. Participants were recruited on a voluntary basis from 1995 to 2005 while being hospitalized due to maladaptive behaviors from a mental health disorder. The primary diagnosis for the participants in this population were as follows: Mood Disorders 60.1%, Schizophrenia and other Psychotic Disorders 8.3%, Substance Abuse 6.8%, Anxiety Disorders 4.3%, and "Other" Disorders 13.8%. 49% of individuals in this sample also had a secondary or comorbid diagnosis of an Axis II or Personality Disorder.

Setting

The sample was derived from individuals at an inpatient psychiatric crisis-stabilization unit in a mid-sized Midwestern city. As part of the admission process, all individuals received a comprehensive medical examination to rule-out any physical health symptoms that may be attributing to or directly causing their current symptomatology. In order to determine psychiatric diagnosis individuals completed a battery of psychological assessment measures. The length of

stay ranged from 1 to 25 days depending on the needs of the individual. The average number of days spent in the hospital was 7 days.

Measures

Demographic Data

Demographic information was collected from participants on age, discharge diagnosis, education level, gender, length of stay at the hospital, and marital status

The Minnesota Multiphasic Personality Inventory – Second Edition (MMPI-2)

The MMPI-2 is a measure containing 567 questions designed to capture a variety of psychiatric symptoms in both a clinical and non-clinical population. All items are presented in a forced-choice manner of true or false. The instrument uses a computerized scoring system to calculate the following scales for the proposed study: validity and reliability scales (seven scales used for exclusion criteria), and three Restructured Clinical scales (RCd, RC2, RC7). The scales on this measure report participant responses in the form of T-scores.

Restructured Clinical Scales

The Restructured Clinical Scales (RC's) were created in 2003 in response to criticism that the original scales, known as the "Basic Nine" were saturated with what would later be referred to as demoralization. The authors of the MMPI-2 RC scales (Tellegen et.al, 2003) believed that the original scales needed to be reconfigured and by removing demoralization from those scales all the original scales would need to be altered.

Demoralization Scale

The Demoralization Scale (RCd) consists of 24 items from the original "Basic Nine" Clinical Scales of the MMPI-2. The items on the RCd were factor analyzed and these 24 items were determined to be over-saturated with demoralization. These items were then removed from

their “parent” Clinical Scales and now comprise the demoralization scale. The RCd scale is the only RC scale created from several of the Clinical Scales, in other words it is the only RC Scale not derived from a single scale. It is also important to note that the RCd scale is highly correlated with RC2 (.72) and RC7 (.76). However, no items from RCd overlap with RC2 or RC7 which lends credence to the Tellegen’s tripartite theory that demoralization, depression, and anxiety all influence one another.

Low Positive Affect Scale

The Low Positive Affect Scale (RC2) consists of 17 items from the original “Basic Nine” Clinical Scales of the MMPI-2. The RC2 scale is designed to measure an individual’s level of depression.

High Negative Affect Scale

The High Negative Affect Scale (RC7) consists of 24 items from the original “Basic Nine” Clinical Scales of the MMPI-2. The items that comprise the RC7 scale are designed to measure an individual’s level of anxiety.

Suicidal Ideation Scale (SIS)

There are five items on the MMPI-2 that are deemed by the authors to be “critical items” which are flagged for the psychologist interpreting the measure to be aware that a participant is endorsing suicidal ideation. These items are presented in a true or false manner as all items are on the measure, and all of the suicidal ideation items are worded in a manner that true would be endorsing those behaviors. These items inquire as to whether the individual is having thoughts of harming themselves, has made previous attempts at harming themselves, and whether or not they have considered killing themselves recently. Since this is not a published scale Cronbach’s

alpha was run to assess its internal consistency. The alpha was .695 suggesting the scale has sufficient internal consistency to be useful in the study.

Procedure

All participants were administered the MMPI-2 during their stay at a psychiatric inpatient hospital between 1996 and 2004. The measure was given to these individuals as part of their psychiatric assessment to help clarify their diagnosis. All participants were given both written and verbal directions on how to complete the measure by a Licensed Psychologist, Psychology Intern or Psychometrist who was available to answer any questions or concerns about the items on the measure. Profiles that were deemed invalid due to under or over reporting of psychological symptoms were not included in the study. These cases were selected for psychological testing due to a lack of clarity regarding a formal diagnosis. It is important to note that the patients who are referred for psychological testing represent 5 % of the psychiatric inpatients receiving treatment at this facility during the data collection period.

Proposed Analysis

The analysis of the data was conducted in three parts, each distinct from the others in an attempt to address the goals of this project. The first part of the analysis consisted of utilizing independent sample t-tests, and a Pearson's r correlation to determine differences within the participants responses based on the demographic variables of age, length of stay, discharge diagnosis, marital status, level of education, and gender. The second part was a discriminant analysis predicting group membership based on gender. The third and final part of the analysis consisted of a canonical correlation analysis with the demographic variables of age, length of stay, discharge diagnosis, marital status, level of education, and gender defining our synthetic

predictor with the MMPI-2-RC scales of RCd, RC2, RC7, and the SIS scale defining the synthetic criterion.

Part One

The goal for part one of the analysis was to aid in determining differences between groups of participants as well as whether there are any patterns or trends based on the participants' demographic information. This was completed utilizing independent sample t-tests, and correlational analyses using Pearson product-moment correlations.

The first analysis utilized independent sample t-tests for the demographic variables of gender, marital status, and primary discharge diagnosis. The gender variable was coded into two categories males and females examining between group differences for gender and the RCd, RC2, RC7, and SIS scales. The marital status variable was coded into the categories Currently Married (e.g., first marriage, remarried, and separated) and Not Currently Married (e.g., never married, divorced). The primary discharge diagnosis was coded into two categories based on the distribution of the diagnosis. Due to the significantly larger number of participants having a Mood Disorder (60%) as their primary diagnosis the discharge variable was grouped into the categories Mood Disorder and Non-Mood Disorder. After grouping the categories an independent samples t-test was conducted examining between group differences for discharge diagnosis and the RCd, RC2, RC7, and SIS scales.

The second form of analysis utilized a Pearson's Product Correlation. This analysis was conducted for the demographic variables length of stay, and level of education, examining whether there are patterns or trends among the participants. This analysis also examined the extent to which these demographic variables are correlated with the Restructured Clinical Scales RCd, RC2, and RC7 and the suicidal ideation scale (SIS).

Part Two

A discriminant analysis was conducted utilizing MMPI-2-RC scores as predictors of membership in two groups: males and females. The predictors selected were RC2 Low Positive Emotion Scores and RCd Demoralization scores.

Part Three

A Canonical Correlation Analysis was conducted to aid in the determination of whether this analysis will provide insight into the relationship that demoralization, depression, and anxiety have with age and gender. Implementing a Canonical Correlation Analysis allows for a better understanding of how these two sets of variables interact with each other. A Canonical Correlation Analysis is designed to examine the patterns of these variables, and can be conceptualized as a multiple regression equation with multiple variables on each side of the equation. The variables on each side of the equation are tabulated to create a predicted value on the opposite side of the equation. Canonical Correlation Analysis can be thought of in terms of a descriptive technique rather than a hypothesis testing procedure (Tabachnick & Fidell, 2001).

The Canonical Correlation Analysis is an ideal form of analysis for this study for several reasons. First, this type of analysis limits the chances of an experimenter committing a Type I Error (finding an effect between variables when one does not exist) (Sherry & Henson, 2005; Thompson, 1991). Second, a Canonical Correlation Analysis removes measurement error as part of the analysis, and is an ideal form of analysis when examining multiple variable sets (Sherry & Henson, 2005). Third, conducting this type of analysis allows the researcher to examine whether and if so to what extent these variables have a relationship with each other; this takes into account the fact that often times in psychological research there are multiple factors contributing to a specific problem.

A Canonical Correlation Analysis was computed for the two variable sets in this study. The first variable set consists of the dependent variables in this study: demoralization, depression, anxiety, and suicidal ideation. The second variable set consists of the independent variables in this study: age, marital status, length of stay, discharge diagnosis, level of education, and gender. It is important to explain to the reader that a canonical function is what is created when the multiple variables are combined in a linear fashion. A standardized canonical function coefficient is a term used to describe the standardized weights in the analysis often referred to as beta weights when implementing a regression. These standardized weights indicate how much a specific variable contributes to that particular canonical function.

When conducting this type of analysis, the reader needs to be aware of variance and redundancy. Each canonical function has an amount of variance and redundancy which are represented as a percentage of the function that contributes to the set. The variance value refers to the percentage of variance that the specific canonical function in question has extracted from its own set. The other important term to consider when examining the results of a Canonical Correlation Analysis is the redundancy. A redundancy value refers to amount of variance (quantified as a percentage) within the canonical function that is extracted or explained by the other set that is being examined.

CHAPTER THREE

RESULTS

Demographic information was collected from participants on level of education, discharge diagnosis, length of stay at the hospital, marital status, gender, race, and age. Participants ranged in age from 18 to 90 (M = 34.5, SD=12.04) and the sample was split almost evenly by gender with females comprising slightly more of the sample (N = 229, 52.5%) than males (N = 207, 47.5%). Length of Stay data was collected for 303 participants and ranged from one to twenty-five days (M = 6.74; SD = 6.0).

Participants self-identified their ethnicity as the following: Caucasian 88.3% (N = 385), African-American 6.1% (N = 27), Hispanic/Latino 1.6% (N = 7), Native-American 3% (N = 13), Asian-American 0.5% (N = 2), and "Other" 0.5% (N = 2). Participants were patients that were referred for psychological testing from 1996 to 2004.

Primary diagnosis data was collected for 387 of the participants in this study and is distributed as follows: Mood Disorders 60.1% (N = 245), Schizophrenia and other Psychotic Disorders 8.3% (N = 37), Substance Abuse 6.8% (N = 28), Anxiety Disorders 4.3% (N = 21), and "Other" Disorders 13.8% (N = 56). 49% of individuals in this sample also had a secondary or comorbid diagnosis of an Axis II or Personality Disorder (N = 189) Given the large amount of individuals with a Mood Disorder diagnosis analysis of primary diagnosis was divided into two categories, those with a mood disorder (60.1%; N = 265) and those without a mood disorder (39.9%; N = 171).

Marital Status data were collected for 403 of the participants in this study and is distributed as follows: Never Married 35.2% (N = 142), First Marriage 19.6% (N = 79), Remarried 10.9% (N = 44), Separated 8.7% (N = 35), Divorced 22.1% (N = 89), Widowed 1.5%

(*N* = 6), Cohabitating 1.5% (*N* = 6), and "Other" 0.5% (*N* = 2). The marital status variable was divided into two categories, those presently married which was comprised of the categories first marriage, remarried, and separated (*N* = 158) and those that are not presently married which was comprised of the categories never married, divorced (*N* = 232). Participants who identified themselves as widowed, cohabitating or other were not included in the final analysis due to low sample size.

Level of Education data were collected for 355 participants and ranged from 7 to 19 years of education (*M* = 12.57; *SD* = 2.22). The education level for the participants in the study is distributed as follows: Less than High School 20.3% (*N* = 72), Completed High School 41.7% (*N* = 148), More than High School 38.1% (*N* = 135). Please refer to Table 1 in Appendix B for more details.

Analysis of the Age and Gender Variables with RC and SIS Scales

Pearson product-moment correlation coefficients were computed to assess the relationship between patient's age and the selected MMPI-2 scales. These correlations are listed below in Table 1 along with probabilities and effect size. It can be seen that there were statistically significant but small negative correlations between age and RCd, RC2and SIS. Younger patients tended to have higher scores on the demoralization, depression and suicide scales.

TABLE 1

PEARSON PRODUCT MOMENT CORRELATIONS BETWEEN AGE AND RESTRUCTURED CLINICAL SCALES AND SUICIDAL IDEATION SCALE

Scale	*r*	*p*	r^2
RCd	-0.15	0.01	0.02
RC2	ns	ns	---
RC7	-0.16	0.01	0.02
SIS	-0.21	0.01	0.04

Independent sample t-tests assessed gender differences on the selected MMPI-2 scales and are summarized below in Table 2. The female patients scored significantly higher than the males on the three RC scales and the effect sizes were small.

TABLE 2

INDEPENDENT T-TESTS EXAMINING GENDER DIFFERENCES WITH RESTRUCTURED CLINICAL SCALES AND SUICIDAL IDEATION SCALE

	Males	Females			
Scale	Mean (SD)	Mean (SD)	*t*	*p*	*Cohen's d*
RCd	13.64 (7.39)	15.69 (7.17)	-2.50	0.01	0.01
RC2	7.99 (4.40)	8.90 (4.33)	-2.17	0.03	0.01
RC7	10.23 (6.12)	12.03 (6.18)	-3.06	0.01	0.02
SIS	1.87 (1.44)	1.88 (1.60)	-0.56	ns	ns

Correlational Analysis Examining Education with RC and SIS Scales

An additional series of Pearson's product moment correlations were conducted examining participants' education level and their rates of demoralization, depression, anxiety, and suicidal ideation. The patients with less education scored significantly higher than those

with a higher education background on the RC7 scale (anxiety) and the effect sizes were small. Table 3 below lists the *p* value and effect sizes.

TABLE 3

PEARSON PRODUCT MOMENT CORRELATIONS BETWEEN EDUCATION AND RESTRUCTURED CLINICAL SCALES AND SUICIDAL IDEATION SCALE

Scale	*r*	*p*	r^2
RCd	-0.03	ns	---
RC2	-0.04	ns	---
RC7	-0.12	0.03	0.01
SIS	-0.01	ns	---

Discriminant Analysis of Gender and RCd and RC2 Scales

A discriminant analysis was conducted using two factor scores as predictors of membership in two groups: males and females. The predictors selected were RC2 Low Positive Emotion Scores and RCd Demoralization scores. There were no missing data. Assumptions of normality, linearity, multicollinearity, and homogeneity of variance were met. One significant discriminant function was calculated, $\Lambda = .98$, χ^2 (2, $N = 436$) = 6.39, $p = .04$, indicating that the two factor score predictors differentiated significantly between the two groups, with a small effect size.

In Table 4, the within-groups correlations between the predictors and the discriminant function are listed. For both the standardized weights and the correlations, a participant's RCd score demonstrated the strongest relationship with the discriminant function. Based on these coefficients, the best predictors for distinguishing between males and females in this sample are their scores on the RCd and RC2 scales. Participants who scored higher on the RCd Scale were also more likely to be female ($M = 15.39$) than their male counterparts ($M = 13.64$). Participants who scored higher on the RC2 Scale were more likely to be female ($M = 8.90$), than their male counterparts ($M = 7.99$).

TABLE 4

STANDARDIZED COEFFICIENTS AND CORRELATIONS OF PREDICTOR VARIABLES WITH THE DISCRIMINANT FUNCTIONS

	Correlation coefficients with discriminant functions	Standardized coefficients for discriminant functions
Predictors	Function	Function
RCd Demoralization	0.98	0.79
RC2 Low Positive Emotions	0.85	0.26
Group Centroids		
Males	-0.13	
Females	0.12	

Canonical Correlation Analysis

A Canonical Correlation Analysis was conducted utilizing the four scales as predictors of the six demographic variables to evaluate the multivariate shared relationship between the two variable sets (i.e., demographics and psychological symptoms). The analysis resulted in four functions with squared canonical correlations (R^2_c) of .127, .103, .046, and .005 for each successive function. The first two functions were statistically significant, function one, $\Lambda = .743$, $p = <.001$. Function two, $\Lambda = .851$, $p = <.001$. The first two functions were considered noteworthy in the context of this study (12.7% and 10.3% of shared variance). The last two non-significant functions (functions 3 and 4) only explained 5.1% of the remaining variance in the variable sets after extracting the previously mentioned functions.

Table 5 presents the standardized canonical function coefficients and structure coefficients for Functions one and two. The squared coefficients are also listed as well as the communalities (h^2) across the two functions for each variable. The first canonical function is defined by high negative structural coefficients by RCd, RC2, SIS and discharge diagnosis and a high positive coefficient with age. The signs of the loadings reflect the negative correlation between age and severity of psychiatric condition (younger patients generally endorsed more

serious problems). The second canonical function was defined by high positive structural coefficients by RC7 and gender. This finding reveals that females obtained higher RC7 scores than the males.

TABLE 5

CANONICAL SOLUTION FOR MMPI-RC AND SUICIDAL IDEATION SCALES PREDICTING PSYCHIATRIC SYMPTOMS FOR FUNCTIONS 1 AND 2

Pair of Canonical Functions		Canonical Variate Left					Canonical Variate Right					
		RCd	RC2	RC7	SIS	Canonical r	Age	Discharge Diagnosis	Education	Gender	Length of Stay	Marital Status
Function I	*Coef*	0.32	-0.86	0.14	-.63	.36 (12.7%)	0.42	-0.61	0.81	-0.00	-0.95	0.14
	r_s	-0.63	-0.87	-0.39	-.80		0.50	-0.65	0.07	-0.00	-0.32	0.23
Function II	*Coef*	-0.43	0.53	1.11	-.78	.32 (10.3%)	0.13	-0.09	-0.64	0.87	0.32	0.13
	r_s	0.34	0.40	0.68	-.23		0.17	0.01	-0.42	0.88	-0.26	0.22

Note: Structure coefficients (r_s) greater than |.45| are underlined.

CHAPTER FOUR

DISCUSSION

This study examined the relationship between age and demoralization in a psychiatric inpatient sample. Measures used included patient demographic information in addition to age and the MMPI-2-RC demoralization (RCd), low positive emotions (RD2), dysfunctional emotions (RC7), and a suicide ideation (SIS) scales. The study was conducted because there is no research in the extant literature on the relationship between age and demoralization. This potential relationship would be of interest clinically and theoretically.

The results revealed that there was a small relationship between age and RCd with younger patients having slightly higher scores than older patients. Younger patients also showed a small but statistically significant tendency to obtain higher scores on anxiety (RC7) and suicide ideation. Age was not statistically related to the depression measure.

Female patients were found to have small but statistically significant higher scores than males on the demoralization, depression and anxiety scales, but there was no gender difference on the suicide scale.

Discharge diagnosis was divided into all mood disorders and non-mood disorders. Patients with a mood disorder diagnosis had small but statistically significant higher scores on demoralization, depression and suicide ideation. The differences on anxiety were not significant. Marital status, length of stay and level of education had no relationship to any of the clinical measures.

As noted previously in the introduction, this writer could find no studies of the relationship of age to demoralization. Hence, this research project was exploratory in nature and no explicit hypotheses were advanced. However, there was an implicit assumption in the

introduction that we would find more demoralization in older patients. Obviously, this assumption was not supported by the data and, in fact, the younger patients had a slight tendency to be demoralized. There may be several reasons why the data arrayed the way they did. One possibility could be that age simply has little relationship to demoralization. Perhaps young persons have the same chances to be demoralized as older people. However, design issues in this study might lead us to be cautious about drawing a "no effect" conclusion at this time. Although the sample size of 436 psychiatric inpatients is relatively large, the number of older people in the sample was small. There were only 12 patients 60 or older and only five who were 71 or older. Even if we count patients who were over the age of 40, there were 118 vs. 282 younger than the age of 40. So it may be that we simply did not have enough older subjects to detect presence of demoralization in this end of the distribution. Further, we did not have the "young old," the "old, old" the "very old" and so on. What we did learn is that in this fairly large sample of psychiatric inpatients demoralization is not associated with greater age. Additional information contributing to this thought is epidemiological research in a community sample by Kessler et al. (2003) who conducted a large study (with approximately 10,000 participants) examining lifetime prevalence of psychiatric disorders. Kessler et al. found 12% of the adults over the age of 60 to have a mood disorder diagnosis. The amount of persons 60 years old or older in the present sample was less than 3%, a proportion especially small in view of the fact that all of the subjects were psychiatric inpatients. Clearly, the number of depressed subjects in the present sample was lower then would be expected in the general population.

It is interesting that, in view of the fact that there seems to be no research linking age to demoralization, that younger patients were more demoralized. It is even more interesting that not only were they more demoralized; they were also more anxious and had more suicide

ideation. Perhaps this is why Murray Sidman (1960) cautioned us to not be blinded by our hypotheses and let the data speak to us! We must be cautious in extrapolating from our results given the small effect sizes. However, given the theoretical and clinical link between demoralization and suicide and given that suicide is the third leading cause of death in adolescents, this finding demands further research.

The finding that the women patients were more demoralized, anxious and suicidal comes as no surprise. There is a very large literature on the greater prevalence of internalizing tendencies among females. It would have been very surprising if these results had not been found.

In the introduction, additional space was devoted to articulating the virtues of the relatively little used canonical procedure as proclaimed by Sherry and Henson. This study demonstrates the wisdom of Sherry and Henson's words. The canonical procedure permits us to study statistically the complexity of our subject matter in a single model. Although the effect sizes were small, the canonical model, as presented in Table 5, was comprehensive and easy to interpret. The story was told in one analysis not many. It is expected that the canonical model will be used increasingly in this kind of research on personality and psychopathology.

Limitations

All research studies have limitations based on many factors such as ethical considerations and the amount of resources available at the time the study is conducted. One of the limitations of this study is the homogeneity of the sample with regard to race. Four-fifths of the participants in this study identified themselves as White/Caucasian which limits the generalizability of the results. Although age was of central interest to the author the lack of patients over the age of 65 (<5%) within the sample limits the conclusions that can be drawn about age, and age can only be

spoken of in broader trends. There is also no literature that the author is aware of that focuses on the relationship between age and RCd scores thus limiting the generalizability, and additional studies are needed for cross-validation. The nature of the sample itself both adds information to the literature on psychiatric inpatients, and limits what can be stated from the results. As noted above the sample in the present study is comprised of only five percent of patients from the psychiatric facility who were referred for psychological testing specifically for diagnostic clarification. These patients represent the more disturbed, severe psychopathology cases within this population limiting generalizabilty. However, this could also be seen as an advantage since these patients would be more likely to experience demoralization. A study that included patients in a psychiatric setting of various function levels may produce different results. An additional limitation is the restriction of range with regard to the responses on the RC Scales. The mean scores on the MMPI-2-RC scales for participants in this study were above the clinically significant range (T-score of > 65) which limited the variance amongst the scores.

Future Research

The author would like to briefly discuss a possible future study focused on older adults, which could be beneficial to further understanding any differences in demoralization during this developmental period. This study would include limiting the number of items given to participants and focus the perspective to areas that are more specific to older adults. One way to focus this on older adults would be by applying Erik Erikson's Psychosocial Theory of Development (Erikson, 1950) to the social issue of demoralization. Erikson's theory accounts for the entire lifetime ranging from birth to over the age of 65. This could provide more insight for researchers into how to detect when an older adult is struggling with feelings of hopelessness and severe distress. For example, a measure of generativity to assess whether an older adult is in

or has successfully completed this Eriksonian stage or whether they are experiencing "stagnation or despair" instead. One measure that could be implemented is the Loyola Generativity Scale (LGS) (McAdams & de St. Aubin, 1992), comprised of 20 items within five categories, designed to measure how well someone has resolved past difficulties and integrated a variety of aspects of their life which has allowed them to focus their attention on the next generation. The LGS measure is comprised of items that are believed to comprise generativity which the authors divide into the following categories: cultural demand, inner desire, generative concern, commitment, generative action, and personal narration. Another measure that could be added to further the richness of a future study is the Satisfaction with Life Scale (SWLS), a five-item measure designed to detect a level of global satisfaction (Diener, Emmons, Larsen & Griffin, 1985).

In summation, a future study that could benefit our understanding of demoralization symptoms with older adults would include the 23-item RCd scale to measure demoralization, the five-item SWLS to measure general satisfaction, and the 20-item LGS. This would decrease the number of items a participant responds to from 567 to 48, and would focus on specific areas of interest with older adults.

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APPENDICES

APPENDIX A

MMPI-2 CLINICAL SCALES "PARENT SCALES"

TABLE A1

LIST OF CLINICAL SCALES WITH ABBREVIATIONS

Abbreviation	Name
Hs	Hypochondriasis
D	Depression
Hy	Hysteria
Pd	Psychopathic Deviance
Mf	Masculine/Femininity
Pa	Paranoia
Pt	Psychasthenia
Sc	Schizophrenia
Ma	Hypomania
Si	Social Introversion

TABLE A2

LIST OF RESTRUCTURED CLINICAL SCALES

Scale	Name
RCd	Demoralization
RC1	Somatic Complaints
RC2	Low Positive Emotions
RC3	Cynicism
RC4	Antisocial Behavior
RC6	Ideas of Persecution
RC7	Dysfunctional Negative Emotions
RC8	Aberrant Experiences
RC9	Hypomanic Activation

APPENDIX B

PARTICIPANT DEMOGRAPHICS

TABLE B1

DEMOGRAPHIC ANALYSIS OF PARTICIPANTS

Variable	
Age in years (mean, SD)	34.5 (12.04)
Gender (%)	
Females	52.5 (*N* = 229)
Males	47.5 (*N* = 207)
Highest education level (%) (*N* = 355)	
Less than High School	20.3 (*N* = 72)
Completed High School	34 (*N* = 148)
More than High School	38.1% (*N* = 135)
Race/ethnicity (%) (*N* = 436)	
Caucasian	88.3 (*N* = 385)
African-American	6.1 (*N* = 27)
Hispanic/Latino	1.6 (*N* = 7)
Native-American	3 (*N* = 13)
Asian-American	0.5 (*N* = 2)
Other	0.5 (*N* = 2)
Primary Diagnosis at Discharge (%) (*N* = 387)	
Mood Disorders	60.1 (*N* = 245)
Schizophrenia and other Psychotic Disorders	8.3 (*N* = 37)
Substance Abuse	6.8 (*N* = 28)
Anxiety Disorders	4.3 (*N* = 21)
Other	13.8 (*N* = 56)

TABLE B2

AGE DISTRIBUTION OF PARTICIPANTS

Age Range	Frequency	Percentage	Cumulative Percentage
18-20	45	10.3	10.3
21-29	125	28.7	39
30-39	130	29.8	68.8
40-49	93	21.3	90.1
50-59	31	7.1	97.2
60 and higher	12	2.8	100

Note: four participants were not included in the analysis due to not reporting age or age was listed as 17.

TABLE B3

LEVEL OF EDUCATION DISTRIBUTION OF PARTICIPANTS

Years of Education	Frequency	Percentage	Cumulative Percentage
7	2	0.6	0.6
8	8	2.2	3
9	22	6.2	9
10	17	4.8	13.8
11	23	6.4	20.2
12	150	42.1	62.3
13	38	10.6	72.9
14	40	11.2	84.1
15	16	4.5	88.6
16	19	5.3	93.9
17	8	2.2	96.1
18	11	3.1	99.2
19	3	0.8	100
Totals	357	100	100

Note: Data for level of education was not collected on 79 of the participants, $N = 357$.

TABLE B4

ETHNICITY OF PARTICIPANTS

Status	Frequency	Percentage	Cumulative Percentage
Caucasian	385	88.3	88.3
African-American	27	6.1	94.4
Hispanic/Latino	7	1.6	96
Native-American	13	3	99
Asian-American	2	0.5	99.5
Other	2	0.5	100

TABLE B5

GENDER DISTRIBUTION OF PARTICIPANTS

Gender	Frequency	Percentage
Males	207	47.5
Females	229	52.5
Total	436	100

TABLE B6

LENGTH OF STAY DISTRIBUTION FOR PARTICIPANTS

Amount of Days	Frequency	Percentage	Cumulative Percentage
1-5	137	44.9	44.9
5-10	125	41	85.9
11-15	29	9.5	95.4
16-20	10	3.3	98.7
$\geq$ 21	3	0.3	100

Note: Data was not collected for 131 participants in the study; $N = 303$.

TABLE B7

MARITAL STATUS DISTRIBUTION FOR PARTICIPANTS

Status	Frequency	Percentage	Cumulative Percentage
Never Married	142	36.5	36.5
First Marriage	79	20.3	56.8
Remarried	44	11.4	68.2
Separated	35	9	77.2
Divorced	89	22.8	100

Note: Data was not collected for 46 participants in this study; $N = 390$.

TABLE B8

PRIMARY DISCHARGE DIAGNOSIS DISTRIBUTION FOR PARTICIPANTS

Type of Disorder	Frequency	Percentage	Cumulative Percentage
Mood	245	63.3	63.3
Schizophrenia/Psychotic	37	9.6	72.9
Substance Abuse	28	7.2	80.1
Anxiety	21	5.4	85.5
Other	56	14.5	100

Note: Data was not collected for 49 participants in this study; $N = 387$.